CIVIL TECH LABS

Accredited by **NABL** as per ISO/ IEC 17025 : 2005

5, 1st Cross, Srinivasa Colony, Mission Road, Bangalore - 560027

Ph: 080 - 4114 2867 / Mob. : 96862 31801, Email: civiltechlabs@gmail.com

T-2654

To,

Assistant Executive Engineer
Byatarayanapura Sub Division,
BBMP Bangalore.

04th April 2014

Dear Sir,

Sub: Testing Wet Mix Macadam.

As requested, tests on physical properties were carried out for the Wet Mix Macadam samples supplied by you, for the work of **'Improvements to Roads and Drain in Ward No.05 Jakkur, at Babanagara Byatarayanapura Sub Division. (Change of place Basalingappa Nagara)'.**

Please find the enclosed Test Reports of the above.

Thanking You,
For Civil Tech Labs

CIVIL TECH LABS BANGALORE

(KHUSHBOO L.)
Deputy Quality Manager

AE-5
Assistant Executive Engineer
Byatarayanapura Sub Division
B.B.M.P. Bangalore

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T-2654

To,

Assistant Executive Engineer
Byatarayanapura Sub Division,
BBMP Bangalore.

16th April 2014

Dear Sir,

Sub: Testing Semi Dense Bituminous Concrete.

As requested, tests on physical properties were carried out for the Semi Dense Bituminous Concrete samples supplied by you, for the work of **'Improvements to Roads and Drain in Ward No.05 Jakkur, at Babanagara Byatarayanapura Sub Division. (Change of place Basalingappa Nagara)'.**

Please find the enclosed Test Reports of the above.

Thanking You,
For Civil Tech Labs

(KHUSHBOO L.)
Deputy Quality Manager

CIVIL TECH LABS BANGALORE

AE-5

Assistant Executive Engineer
Byatarayanapura Sub Division
B.B.M.P. Bangalore

AE-05

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CIVIL TECH LABS

TEST ON SDBC MIX GRADE - 2

Name of the Client	AEE, Byatarayanapura Sub Division, BBMP
Project	Improvements to Roads and Drain in Ward No.05 Jakkur, at Babanagara Byatarayanapura Sub Division. (Change of place Basalingappa Nagara)
Agency	Sri. Vinay Kumar
Date of Testing	15/04/2014
Reference	**MORTH Table 500-15. SDBC Grade-2**

	Sample-1		
IS Sieve Designation (mm)	**% By Weight Passing IS Sieve**	**Actual % By Weight Passing IS Sieve**	**Remarks**
13.2	100	100	**Satisfies Requirements**
9.5	90-100	99.1	
4.75	35-51	46.2	
2.36	24-39	31.8	
1.18	15-30	22.9	
0.3	9-19	15.1	
0.075	3-8	6.8	

Note:

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Assistant Executive Engineer
Byatarayanapura Sub Division
B.B.M.P. Bangalore

CIVIL TECH LABS

TEST ON WMM MIX

Name of the Client	AEE, Byatarayanapura Sub Division, BBMP
Project	Improvements to Roads and Drain in Ward No.05 Jakkur, at Babanagara Byatarayanapura Sub Division. (Change of place Basalingappa Nagara)
Agency	Sri. Vinay Kumar
Date of Testing	03/04/2014
Reference	**MORTH Table 400-11**

IS Sieve Designation (mm)	% By Weight Passing IS Sieve	Actual % By Weight Passing IS Sieve	Remarks
53	100	100	**Satisfies Requirements**
45	95-100	98.9	
22.4	60-80	74.1	
11.2	40-60	57.2	
4.75	25-40	33.8	
2.36	15-30	24.4	
0.6	8-22	17.9	
0.075	0-8	6.3	

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TEST ON SDBC MIX GRADE - 2

Name of the Client	AEE, Byatarayanapura Sub Division, BBMP
Project	Improvements to Roads and Drain in Ward No.05 Jakkur, at Babanagara Byatarayanapura Sub Division. (Change of place Basalingappa Nagara)
Agency	Sri. Vinay Kumar
Date of Testing	15/04/2014
Reference	**MORTH Table 500-15. SDBC Grade-2**

	Sample-2		
IS Sieve Designation (mm)	**% By Weight Passing IS Sieve**	**Actual % By Weight Passing IS Sieve**	**Remarks**
13.2	100	100	**Satisfies Requirements**
9.5	90-100	98.6	
4.75	35-51	45.9	
2.36	24-39	32.4	
1.18	15-30	21.8	
0.3	9-19	16.8	
0.075	3-8	6.1	

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Khushboo
Lab Incharge
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Byatarayanapura Sub Division
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CIVIL TECH LABS

Bitumen Content Determination on SDBC Mix-Grade 2

Name of the Client	AEE, Byatarayanapura Sub Division, BBMP
Name of the Work	Improvements to Roads and Drain in Ward No.05 Jakkur, at Babanagara Byatarayanapura Sub Division. (Change of place Basalingappa Nagara)
Agency Name	Sri. Vinay Kumar
Date of Testing	15/04/2014

Specification : As Per MORTH (4th Revision) Table 500-15
Minimum Bitumen Content SDBC/Grade-2 is 5 %

Sl.no	Description	Sample-1	Sample-2
1	Weight of mixture before test, g	1000	1000
2	Weight of mixture after test, g	944	942
3	Weight of bitumen extracted, g	56	58
4	Bitumen content in %	5.60	5.80
5	Average Bitumen content in %	5.70	
Remarks	**Satisfactory**		

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CIVIL TECH LABS

TEST ON AGGREGATES ('AIV' & Combined Flakiness & Elongation Index)

Semi Dense Bitumenous Concrete

Name of the Client	AEE, Bytarayanapura Sub Division, BBMP
Project	Improvements to roads and drain in ward no-05, Jakkur at Babanagara Bytarayanapura Sub Division (Change of place Basalingappanagara).
Agency Name	Sri. Vinay Kumar.
Date of Testing	15/04/2014
Reference	**MORTH Table 500-14**

Sl. No	Aggregate Impact Value 'AIV' in %	Average AIV in %	Remarks
1	21.9	22.2	Satisfactory (As per MORTH for SDBC, Maximum allowed AIV is 27 %)
2	22.5		

Test	Result in %	Combined Flekiness & Elongation Index 'C-F&E' in %	Remarks
Flakiness Index	11.6	24.8	Satisfactory (As per MORTH for SDBC, Maximum allowed 'C-F&E' is 30 %)
Elongation Index	13.2		

Note:

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CIVIL TECH LABS

TEST ON AGGREGATES ('AIV' & Combined Flakiness & Elongation Index)

Wet Mix Macadam

Name of the Client	AEE, Bytarayanapura Sub Division, BBMP
Project	Improvements to roads and drain in ward no-05, Jakkur at Babanagara Bytarayanapura Sub Division (Change of place Basalingappanagara).
Agency Name	Sri. Vinay Kumar.
Date of Testing	03/04/2014
Reference	**MORTH Table 400-10**

Sl. No	Aggregate Impact Value 'AIV' in %	Average AIV in %	Remarks
1	22.8	23.7	Satisfactory (As per MORTH for WMM, Maximum allowed AIV is 30 %)
2	24.6		

Test	Result in %	Combined Flekiness & Elongation Index 'C-F&E' in %	Remarks
Flakiness Index	10.9	23.7	Satisfactory (As per MORTH for WMM, Maximum allowed 'C-F&E' is 30 %)
Elongation Index	12.8		

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CIVILTECH LABS
WATER ABSORPTION TEST OF ROAD AGGREGATES

Semi Dense Bitumenous Concrete (SDBC)

Name of the Client	AEE, Bytarayanapura Sub Division, BBMP
Name of Work	Improvements to roads and drain in ward no-05, Jakkur at Babanagara Bytarayanapura Sub Division (Change of place Basalingappanagara).
Agency Name	Sri. Vinay Kumar.
Date of Testing	15/04/2014

Method of Test	Sample No.	Water Absorption in %	Average Water Absorption in %	As per MORTH Table 500-14	Remarks
IS : 2386 (Part 3)	1	0.77	0.82	**2 % Maximum**	Satisfactory
	2	0.82			
	3	0.86			

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CIVILTECH LABS

STRIPPING TEST OF ROAD AGGREGATES

Semi Dense Bitumenous Concrete

Name of the Client	AEE, Bytarayanapura Sub Division, BBMP
Name of Work	Improvements to roads and drain in ward no-05, Jakkur at Babanagara Bytarayanapura Sub Division (Change of place Basalingappanagara).
Name of the Agency	Sri. Vinay Kumar.
Date of Testing	15/04/2014

		Sample 1			
Method of Test	**Observation No.**	**Uncovered Area/Stripping in %**	**Average Stripping Value in %**	**As Per Morth Table 500-17**	**Remarks**
IS 6241-1971 (Reafirmed 2003)	1	4.2	3.9	**5 % Maximum**	Satisfactory
	2	3.8			
	3	3.6			

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CIVILTECH LABS

TEST REPORT ON FINE AGGREGATES Ref:IS:383/2386

Name of the Client	AEE, Bytarayanapura Sub Division, BBMP
Name of Work	Improvements to roads and drain in ward no-05, Jakkur at Babanagara Bytarayanapura Sub Division (Change of place Basalingappanagara).
Agency Name	Sri. Vinay Kumar.

Sample	Date of Testing	Specific Gravity	IS Sieve designation (mm)	Sieve Analysis (% Passing IS Sieve)	Grading Requirement As Per IS 383-1970				Grading Zone
					ZONE-I	ZONE-II	ZONE-III	ZONE-IV	
Fine Aggregates	03/04/2014	2.55	10	100	100	100	100	100	II
			4.75	98.5	90-100	90-100	90-100	95-100	
			2.36	82.6	60-95	75-100	85-100	95-100	
			1.18	65.9	30-70	55-90	75-100	90-100	
			0.6	48.5	15-34	35-59	60-79	80-100	
			0.3	24.6	5-20	8-30	12-40	15-50	
			0.15	7.5	0-10	0-10	0-10	0-15	

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TEST REPORT ON CEMENT

Name of the Client	AEE, Bytarayanapura Sub Division, BBMP
Name of Work	Improvements to roads and drain in ward no-05, Jakkur at Babanagara Bytarayanapura Sub Division (Change of place Basalingappanagara).
Agency Name	Sri. Vinay Kumar.

Tests on Cement	Test Date	Tests	Test Method As Per IS & Apparatus		Results		Requirements As Per IS 8112 1989	Remarks
			IS Code	Method	Value	Unit		
	03/04/2014	Initial Setting Time	**IS-4031 (Part-5) 1988**	VICAT	54	min	Not Less Than 30 Minutes	Satisfies Requirement
		Final Setting Time	**IS-4031 (Part-5) 1988**	VICAT	480	min	Not More Than 600 Minutes	Satisfies Requirement
		Soundness	**IS-4031 (Part-3) 1988**	LE-CHATELIER	4	mm	Not More Than 10 mm	Satisfies Requirement

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